Name of Organization: National Wildlife Federation

Type of Organization: Other

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Project Title: Mercury Monitoring for Pollution Prevention

Project Category: Emerging Issues

Rank by Organization (if applicable): 1

Total Funding Requested ($): 59,262 **Project Duration:** 1 Years

Abstract:

The National Wildlife Federation (NWF) will initiate mercury monitoring in three cities in the Great Lakes airshed to better assess the contribution that local sources make to atmospheric deposition of mercury to the Great Lakes basin. The results of this monitoring will be instrumental in guiding the pollution prevention activities of the Binational Toxics Strategy (BTS) with regard to mercury pollution prevention.

Geographic Areas Affected by the Project

States:

- [x] Illinois
- [x] Indiana
- [x] Michigan
- [x] Minnesota
- [ ] New York
- [ ] Pennsylvania
- [x] Wisconsin
- [x] Ohio

Lakes:

- [ ] Superior
- [ ] Huron
- [ ] Michigan
- [ ] Erie
- [ ] Ontario
- [x] All Lakes

Geographic Initiatives:

- [x] Greater Chicago
- [x] NE Ohio
- [x] NW Indiana
- [x] SE Michigan
- [x] Lake St. Clair

Primary Affected Area of Concern: All AOCs

Other Affected Areas of Concern:

For Habitat Projects Only:

Primary Affected Biodiversity Investment Area: Not Applicable

Other Affected Biodiversity Investment Areas:

Problem Statement:

The purpose of the project is to better identify the contribution that local sources make to atmospheric deposition of mercury to the Great Lakes basin. The vast majority of mercury precipitation monitoring is in rural and remote locations, presumably to assess the global pool of mercury and the contribution it makes to deposition. That knowledge is important, but it leaves a number of questions unanswered. Are the mercury precipitation concentrations in urban, suburban and ex-urban locations significantly higher? Are there mercury precipitation "hot spots" that may be contributing to mercury hot spots in the Great Lakes basin? And, most fundamentally, what is the local source contribution to mercury in precipitation?

The answers to these questions are critical to progress in the BTS for mercury. The mercury workgroup and the BTS as a whole in the next year are moving to the latter steps in the four-step process: identifying cost-effective options for further reductions, and recommendations and implementation of actions. To determine the potential impact of the local and regional mercury reduction actions contemplated by the BTS, we must have a better understanding of how these local and regional sources contribute to the overall mercury deposition rates in the Great Lakes. If the sources of atmospheric mercury deposition are primarily local, then pollution prevention by those sources and state-based controls can make a real difference. If those sources are primarily national and global, then our ability to leverage reductions through regional initiatives would be less effective. We would need to raise to a higher priority other strategies at the national and international levels to achieve our goals.

Proposed Work Outcome:

The design of the project is simple. We propose to sponsor for one year sampling of mercury in precipitation at monitoring sites in three of the following locations: Cleveland, Detroit, Duluth, Chicago, Gary, Milwaukee, and Minneapolis. None of these locations have ongoing precipitation monitoring for mercury; some (Gary and Cleveland) have never had such sampling. We cannot today identify the three locations we would choose out of these seven because we understand that others may sponsor mercury precipitation sampling in at least two of these locations, and would not want to duplicate their efforts.

Following the urban sampling, we will compile the urban site data so we can compare them to the rural and remote concentrations of mercury. The rural and remote sampling data are available from eight monitoring stations presently being operated by the Mercury Deposition Network. Through this comparison, we will be able to develop estimates of proportion of mercury air deposition that is local, regional, and global in the basin.

This project will not exhaustively research or conclusively identify the local, regional and global contributions of mercury to the Great Lakes. Other researchers are doing work on this question using a variety of approaches (e.g., comparing

sediment core sampling in Minnesota, the Pacific Coast, and Alaska). Part of our project will be to analyze their work, share our results with them, and present a summary of the results from their work and ours to the BTS.

Sampling would be conducted by respected university scientists. The annual sampling cost estimates range from $10,000 to $15,000 per monitoring site. If the project is successful, NWF is likely to seek funding to extend the monitoring beyond a single year.

Project Milestones:	**Dates:**
Project Start	11/2000
Mercury monitoring starts in 3 cities	11/2000
Compile data quarterly	03/2001
Compare with rural monitoring data	04/2001
Begin writeup of urban data	07/2001
Distribute writeup of urban data	09/2001
	/
Project End	09/2001

☒ Project Addresses Environmental Justice

If So, Description of How:

NWF believes that successful movement toward eliminating contamination due to the listed BTS priority chemicals is particularly relevant to minority people. We have an organizational commitment to give special consideration to those who are most susceptible to harm, from food-chain contamination, such as Native Americans and African-Americans. This project is an important part of our efforts to protect such people from the harm associated with eating contaminated food.

☒ Project Addresses Education/Outreach

If So, Description of How:

NWF will utilize the data gathered during this project to educate Great Lakes communities about the contribution of local sources of mercury emissions to the Great Lakes.

Project Budget:

	Federal Share Requested ($)	Applicant's Share ($)
Personnel:	9,000	13,000
Fringe:	2,790	4,030
Travel:	3,500	3,500
Equipment:	0	0
Supplies:	607	607
Contracts:	35,000	35,000
Construction:	0	0
Other:	2,978	5,178
Total Direct Costs:	53,875	61,315
Indirect Costs:	5,387	6,131
Total:	59,262	67,446
Projected Income:	0	0

Funding by Other Organizations (Names, Amounts, Description of Commitments):

This project will receive some funding from NWF's unrestricted revenues. We have several grant requests pending for the matching share of the project.

Description of Collaboration/Community Based Support:

NWF will collaborate closely with select Great Lakes universities in this project. NWF will also collaborate with EPA-GLNPO and BTS partners such as Great Lakes United and other ENGOs in sharing the results within the BTS.